should have the best prospects of moving into other areas such as network administration and technical support. Others may be retrained to perform different job duties, such as supervising an operations center, maintaining automation packages, or analyzing computer operations to recommend ways to increase productivity. In the future, operators who wish to work in the computer field will need to know more about programming, automation software, graphics interface, client/server environments, and open systems, in order to take advantage of changing opportunities.

Earnings

Median annual earnings of computer operators, except peripheral equipment operators were $25,030 in 1998. The middle 50 percent earned between about $20,410 and $31,610 a year. The lowest 10 percent earned less than $16,260; the highest 10 percent earned more than $39,130. Median annual earnings in the industries employing the largest numbers of computer operators, except peripheral equipment operators in 1997 are shown below:

Computer and data processing services	$24,300
Hospitals	23,600
Personnel supply services	22,600
Federal government	22,500
Commercial banks	20,200

In the Federal Government, computer operators with a high school diploma started at about $21,600 a year in 1999; those with 1 year of college started at $23,000. Applicants with operations experience started at higher salaries.

Median annual earnings of peripheral equipment operators were $22,860 in 1998. The middle 50 percent earned between $18,240 and $29,370 a year. The lowest 10 percent earned less than $14,870; the highest 10 percent earned more than $37,220.

According to Robert Half International, the average starting salaries for console operators ranged from $26,000 to $35,500 in 1999. Salaries generally are higher in large organizations than in small ones.

Related Occupations

Other occupations involving work with computers include computer scientists, engineers, and systems analysts; computer programmers, and computer service technicians. Other occupations in which workers operate electronic office equipment include data entry keyers, secretaries, typists and word processors, and typesetters and compositors.

Sources of Additional Information

For information about work opportunities in computer operations, contact firms that use computers such as banks, manufacturing and insurance firms, colleges and universities, and data processing service organizations. The local office of the State employment service can supply information about employment and training opportunities.

Court Reporters, Medical Transcriptionists, and Stenographers

(O*NET 55302A and 55302B)

Significant Points

- A high school diploma is sufficient for stenographers; employers prefer medical transcriptionists who have completed a vocational school or community college program; and court reporters usually need a 2- or 4-year postsecondary school degree.
- Overall employment is projected to grow about as fast as the average, as rapid growth among medical transcriptionists is offset by the decline among stenographers.
- Because of their relatively high salaries, keen competition should exist for court reporter positions; certified court reporters and medical transcriptionists should enjoy the best job prospects.

Nature of the Work

Although court reporters, medical transcriptionists, and stenographers all transcribe spoken words, the specific responsibilities of each of these workers differ markedly. Court reporters and stenographers typically take verbatim reports of speeches, conversations, legal proceedings, meetings, and other events when written accounts of spoken words are necessary for correspondence, records, or legal proof. Medical transcriptionists, on the other hand, translate and edit recorded dictation by physicians and other healthcare providers regarding patient assessment and treatment.

Court reporters document all statements made in official proceedings using a stenotype machine, which allows them to press multiple keys at a time to record combinations of letters representing sounds, words, or phrases. These symbols are then recorded on computer disks or CD-ROM, which are then translated and displayed as text in a process called computer-aided transcription. Stenotype machines used for real-time captioning are linked directly to the computer. As the reporter keys in the symbols, they instantly appear as text on the screen. This is used for closed captioning for the hearing-impaired on television, or in courts, classrooms, or meetings. In all of these cases, accuracy is crucial because there is only one person creating an official transcript.

Although many court reporters record official proceedings in the courtroom, the majority of court reporters work outside the courtroom. Freelance reporters, for example, take depositions for attorneys in offices and document proceedings of meetings, conventions, and other private activities. Others capture the proceedings in government agencies of all levels, from the U.S. Congress to State and local governing bodies. Court reporters who specialize in captioning live television programming, commonly known as *stenocaptioners*, work for television networks or cable stations captioning news, emergency broadcasts, sporting events, and other programming.

Medical transcriptionists use headsets and transcribing machines to listen to recordings by physicians and other healthcare professionals. These workers transcribe a variety of medical reports about emergency room visits, diagnostic imaging studies, operations, chart reviews, and final summaries. To understand and accurately transcribe dictated reports into a format that is clear and comprehensible for the reader, the medical transcriptionist must understand the language of medicine, anatomy and physiology, diagnostic procedures, and treatment. They also must be able to translate medical jargon and abbreviations into their expanded forms. After reviewing and editing for grammar and clarity, the medical transcriptionist transcribes the dictated reports and returns them in either printed or electronic form to the dictator for review and signature, or correction. These reports eventually become a part of the patient's permanent file. (Medical secretaries, who are discussed in the *Handbook* statement on secretaries, may also transcribe as part of their jobs.)

Stenographers take dictation and then transcribe their notes on a word processor or onto a computer diskette. They may take dictation using either shorthand or a stenotype machine, which prints shorthand symbols. General stenographers, including most beginners, take routine dictation and perform other office tasks such as typing, filing, answering telephones, and operating office machines. Experienced and highly skilled stenographers often supervise other stenographers, typists, and clerical workers and take more difficult dictation. For example, skilled stenographers may attend staff meetings and provide word-for-word records or summary reports of the proceedings to the participants. Some experienced stenographers take dictation in foreign languages; others work as public stenographers serving traveling business people and others. Technical stenographers must know the medical, legal, engineering, or scientific terminology used in a particular profession.

Medical transcriptionists use headsets to listen to recordings of physicians and other healthcare professionals.

Working Conditions

The majority of these workers are employed in comfortable settings. Court reporters, for example, work in the offices of attorneys, courtrooms, legislatures, and conventions. Medical transcriptionists are found in hospitals, doctors' offices, or medical transcription services. Stenographers usually work in clean, well-lighted offices. An increasing number of court reporters and medical transcriptionists work from home-based offices as subcontractors for law firms, hospitals, and transcription services.

Work in these occupations presents few hazards, although sitting in the same position for long periods can be tiring, and workers can suffer wrist, back, neck, or eye problems due to strain and risk repetitive motion injuries such as carpal tunnel syndrome. Also, the pressure to be accurate and fast can also be stressful.

Many court reporters, medical transcriptionists, and stenographers work a standard 40-hour week, although about 1 in 4 works part time. A substantial number of court reporters and medical transcriptionists are self-employed, which may result in irregular working hours.

Employment

Court reporters, medical transcriptionists, and stenographers held about 110,000 jobs in 1998. More than 1 in 4 were self-employed. Of those who worked for a wage or salary, about one-third worked for State and local governments, a reflection of the large number of court reporters working in courts, legislatures, and various agencies. About 1 in 4 worked for hospitals and physicians' offices, reflecting the concentration of medical transcriptionists in health services. Other transcriptionists, stenographers, and court reporters worked for colleges and universities, secretarial and court reporting services, temporary help supply services, and law firms.

Training, Other Qualifications, and Advancement

The training for each of the three occupations varies significantly. Court reporters usually complete a 2- or 4-year training program, offered by about 300 postsecondary vocational and technical schools and colleges. Currently, the National Court Reporters Association (NCRA) has approved about 110 programs, all of which offer courses in computer-aided transcription and real-time reporting. NCRA-approved programs require students to capture 225 words per minute. Court reporters in the Federal Government usually must capture at least 205 words a minute.

Some States require court reporters to be Notary Publics, or to be a Certified Court Reporter (CCR); reporters must pass a State certification test administered by a board of examiners to earn this designation. The National Court Reporters Association confers the designation, Registered Professional Reporter (RPR), upon those who pass a two-part examination and participate in continuing education programs. Although voluntary, the RPR designation is recognized as a mark of distinction in this field.

For medical transcriptionist positions, understanding medical terminology is essential. Good English grammar and punctuation skills are required, as well as familiarity with personal computers and word processing software. Good listening skills are also necessary, because some doctors and health care professionals speak English as a second language.

Employers prefer to hire transcriptionists who have completed postsecondary training in medical transcription, offered by many vocational schools and community colleges. Completion of a 2-year associate degree program—including coursework in anatomy, medical terminology, medicolegal issues, and English grammar and punctuation—is highly recommended. Many of these programs include supervised on-the-job experience. The American Association for Medical Transcription awards the voluntary designation, Certified Medical Transcriptionist (CMT), to those who earn passing scores on written and practical examinations. As in many other fields, certification is recognized as a sign of competence in medical transcription.

Stenographic skills are taught in high schools, vocational schools, community colleges, and proprietary business schools. For stenographer jobs, employers prefer to hire high school graduates and seldom have a preference among the many different shorthand methods. Although requirements vary in private firms, applicants with the best speed and accuracy usually receive first consideration in hiring. To qualify for jobs in the Federal Government, stenographers must be able to take dictation at a minimum of 80 words per minute and type at least 40 words per minute. Workers must achieve higher rates to advance to more responsible positions.

Stenographers, especially those with strong interpersonal and communication skills may advance to secretarial positions with more responsibilities. In addition, some stenographers complete the necessary education to become court reporters or medical transcriptionists.

Job Outlook

Overall employment of court reporters, medical transcriptionists, and stenographers is projected to grow about as fast as the average for all occupations through 2008. Employment growth among medical transcriptionists should be offset by the decline among stenographers, while the number of court reporters should remain fairly constant.

Demand for medical transcriptionists is expected to increase due to rapid growth in health care industries spurred by a growing and aging population. Advancements in voice recognition technology are not projected to reduce the need for medical transcriptionists because these workers will continue to be needed to review and edit drafts for accuracy. Moreover, growing numbers of medical transcriptionists will be needed to amend patients' records, edit for grammar, and discover discrepancies in medical records. Job opportunities should be the best

for those who earn an associate degree or certification from the American Association for Medical Transcription.

There should be little or no change in employment of court reporters. Despite increasing numbers of civil and criminal cases, budget constraints limit the ability of Federal, State, and local courts to expand. The growing number of conventions, conferences, depositions, seminars, and similar meetings in which proceedings are recorded should create limited demand for court reporters. Although many of these events are videotaped, a written transcript must still be created for legal purposes or if the proceedings are to be published. In addition, the trend to provide instantaneous written captions for the deaf and hearing-impaired should strengthen demand for stenocaptioners. Because of their relatively high salaries, keen competition should exist for court reporter positions; those with certification should enjoy the best job prospects.

The widespread use of dictation machines has greatly reduced the need for office stenographers. Audio recording equipment and the use of personal computers by managers and other professionals should continue to further decrease the demand for these workers.

Earnings

Court reporters, medical transcriptionists, and stenographers had median annual earnings of $25,430 in 1998. The middle 50 percent earned between $21,060 and $31,470; the lowest paid 10 percent earned less than $17,060; and the highest paid 10 percent earned over $39,070. Median 1997 annual salaries in the industries employing the largest number of these workers were:

Local government, except education and hospitals	$29,300
State government, except education and hospitals	29,000
Mailing, reproduction, and stenographic services	28,600
Hospitals	23,500
Offices and clinics of medical doctors	22,600

Court reporters usually earn higher salaries than stenographers or medical transcriptionists, and many supplement their income by doing additional freelance work. According to a National Court Reporters Association survey of its members, average annual earnings for court reporters were about $54,000 in 1999. According to the 1999 HayGroup survey about three-quarters of healthcare institutions paid their medical transcriptionists for time worked, with average salaries ranging from $20,000 to $30,000 annually. About a fifth of those respondents used a combination of payment methods (time worked plus incentive for production), with average salaries ranging from $28,000 to $36,000 annually. Regardless of specialty, earnings depend on education, experience, and geographic location.

Related Occupations

A number of other workers type, record information, and process paperwork. Among these are administrative assistants, bookkeepers, receptionists, secretaries, and human resource clerks. Other workers who provide medical and legal support include paralegals, medical assistants, and medical record technicians.

Sources of Additional Information

For information about careers, training, and certification in court reporting, contact:

☛ National Court Reporters Association, 8224 Old Courthouse Rd., Vienna, VA 22182. Internet: **http://www.verbatimreporters.com**

For information on a career as a medical transcriptionist, contact:

☛ American Association for Medical Transcription, P.O. Box 576187, Modesto, CA 95357. Internet: **http://www.aamt.org/aamt**

For information on a career as a federal court reporter, contact:

☛ United States Court Reporters Association, 1904 Marvel Lane, Liberty, MO 64068. Internet: **http://www.uscra.org**

State employment service offices can provide information about job openings for court reporters, medical transcriptionists, and stenographers.

Information Clerks

Significant Points

- Numerous job openings should arise for most types of information clerks due to employment growth and high turnover.
- A high school diploma or its equivalent is the most common educational requirement.
- Because many information clerks deal directly with the public, a professional appearance and pleasant personality are imperative.

Nature of the Work

Information clerks are found in nearly every industry in the Nation, gathering data and providing information to the public. The specific duties of these clerks vary as widely as the job titles they hold. *Hotel, motel, and resort desk clerks*, for example, are a guest's first contact for check-in, check-out, and other services within hotels, motels, and resorts. *Interviewing and new account clerks*, found most often in medical facilities, research firms, and financial institutions, assist the public in completing forms, applications or questionnaires. *Receptionists* are often a visitor's or caller's first contact within an organization, providing information and routing calls. *Reservation and transportation ticket agents and travel clerks* assist the public in making travel plans, reservations, and purchasing tickets for a variety of transportation services.

Although their day-to-day duties vary widely, most information clerks greet customers, guests, or other visitors. Many also answer telephones and either obtain information from or provide information to the public. Most information clerks use multiline telephones, fax machines, and personal computers. This section, which contains an overall discussion of information clerks, is followed by separate sections providing additional information on the four types of clerks identified above.

Working Conditions

Working conditions vary for different types of information clerks, but most clerks work in areas that are clean, well lit, and relatively quiet. This is especially true for information clerks who greet customers and visitors and usually work in highly visible areas that are furnished to make a good impression. Reservation agents and interviewing clerks who spend much of their day talking on the telephone, however, commonly work away from the public, often in large centralized reservation or phone centers. Because a number of agents or clerks may share the same work space, it may be crowded and noisy. Interviewing clerks may conduct surveys on the street, in shopping malls, or go door to door.

Although most information clerks work a standard 40-hour week, about 3 out of 10 work part time. Some high school and college students work part time as information clerks, after school or during vacations. Some jobs—such as those in the transportation industry, hospitals, and hotels, in particular—may require working evenings, late night shifts, weekends, and holidays. This is also the case for a growing number of new accounts clerks who work for large banks with call centers that are staffed around the clock. Interviewing clerks conducting surveys or other research may mainly work evenings or weekends. In general, employees with the least seniority tend to be assigned the less desirable shifts.

The work performed by information clerks may be repetitious and stressful. For example, many receptionists spend all day answering telephones while performing additional clerical or secretarial tasks. Reservation agents and travel clerks work under stringent time constraints or have quotas on the number of calls answered or reservations made. Additional stress is caused by technology that enables management to electronically monitor use of computer systems, tape record telephone calls, or limit the time spent on each call.